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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/532,429

04/25/2005

Hitomi Sano

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EXAMINER

HANOR, SERENA L

ART UNIT

PAPER NUMBER

1793

MAIL DATE

DELIVERY MODE

05/14/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/532,429	Applicant(s) SANO ET AL.	
	Examiner SERENA L. HANOR	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2-11, 15 and 16 is/are allowed.
- 6) ☒ Claim(s) 13 and 14 is/are rejected.
- 7) ☒ Claim(s) 1 and 12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 April 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>04/25/2005, 08/18/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

Claims 1 and 12 are objected to because of the following informalities:

- i. Claim 1, line 3, recite "10 μm to 1 μm ", which should be "10 nm to 1 μm ", as per the Specification, lines 7-8.
- ii. Claim 12, line 3 should contain the word "compound" after the word "thiol" and line 4 should contain the word "compound" after the word "thiol", for clarity.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 13 and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- i. Claim 13 recites the limitation "the medium (d)" in line 4. There is insufficient antecedent basis for this limitation in the claim. Claim 13 is dependent on any one of claims 9-12, but claims 9 and 11 contain no reference to a medium.
- ii. Claim 14 recites the limitation "(d)" in line 3. There is insufficient antecedent basis for this limitation in the claim. Claim 14 is dependent on any one of claims 9-12, but claims 9 and 11 contain no reference to (d).

Allowable Subject Matter

The following is a statement of reasons for the indication of allowable subject matter:

- i. Jang et al. (U.S. Patent no. 7,071,258 B1) disclose nano-scaled graphene plates composed of a sheet of graphite plane or a plurality of sheets of graphite plane (col. 3 lines 3-7). Each graphene plane comprises a two-dimensional hexagonal structure of carbon atoms (col. 3 lines 7-9). Each graphene plate has a length and width parallel to the graphite plane, and at least one of the length and width are 100 nm or less (col. 3 lines 9-13). Said plurality of graphite planes may be a stack of parallel graphite planes in which the thickness of said stack may be 10 nm to 1 μ m (col. 3 lines 43-56). Jang et al. differs from the instant invention in that it does not disclose the forming of the graphene plates into hexagonal flakes, wherein the graphene plates are perpendicular to the plane of the flake, which can then be stacked to form the instantly claimed carbonaceous particle.
- ii. Nishino et al. (U.S. Patent No. 6,835,330 B2) disclose a stacked graphene sheet (col. 7 lines 59-64) but does not disclose this stack to be a hexagonal flake.

Conclusion

Claims 1-16 have not been rejected under either 35 U.S.C. 102 or 35 U.S.C. 103 because the limitations of these claims are not taught in the reference(s) of record.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SERENA L. HANOR whose telephone number is (571)270-3593. The examiner can normally be reached on Monday - Thursday 8:00 AM - 5:30 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on (571) 272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SLH

/Timothy C Vanoy/
Primary Examiner, Art Unit 1793